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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	)	
Zang, Ji-Guang	)	Group Art Unit: 1745
Serial No. 10/047,407	)	Examiner: Alejandro, Raymond
Filed: January 10, 2002	)	
For: PACKAGED THIN FILM	)	
BATTERIES AND METHOD OF	)	
PACKAGING THIN FILM	)	
BATTERIES	)	

APPEAL BRIEF

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APPEAL BRIEF

I. INTRODUCTION

This is an appeal from the decision of the Patent Examiner, Group Art Unit 1745, finally rejecting claims 1-16.

II. REAL PARTY IN INTEREST

The Applicant is the real party in interest.

III. RELATED APPEALS AND INTERFERENCES

None.

IV. STATUS OF THE CLAIMS

Claims 1-16 stand rejected by the final action mailed June 15, 2004. Claims 1-16 are pending. Applicant hereby appeals the final rejection of claims 1-16. Applicant hereby cancels claims 17-20.

## V. STATUS OF AMENDMENTS

None.

## VI. SUMMARY OF INVENTION

Applicant has invented a method of sealing a battery cell having a top surface, a bottom surface and peripheral edges. The method comprises the steps of (a) positioning a first layer of packaging foil over the top surface of the battery cell, (b) positioning a second layer of packaging foil over the bottom surface of the battery cell, and (c) heat sealing the first layer of packaging foil to the top surface of the battery cell, heat sealing the second layer of packaging foil to the bottom surface of the battery cell, and heat sealing the first layer of packaging foil to the second layer of packaging foil about the periphery of the battery cell, and a product resulting from the process.

## VII. ISSUES

The issues in the Appeal are whether claims 1-5, 7-11 and 13-15 are unpatentable under 35 U.S.C. §102 as being anticipated by Xing et al., and whether claims 6, 12 and 16 are unpatentable under 35 U.S.C. §103 as being obvious over Xing et al.

## IX. GROUPING OF CLAIMS

Claims 1-6 stand and fall together as they all contain the limitation of heat sealing the first and second layers of packaging foil to the cell and to each other about the periphery.

Claims 7-12 stand and fall together as they all contain the limitation of pressing the first and second layers against the battery cell.

Claims 13-16 stand and fall together as they all contain the limitation of the actual product rather than the method.

## IX. ARGUMENT

Applicant's invention of claim 1 defines a method of sealing a battery cell having a top surface, a bottom surface and peripheral edges. The method comprises the steps of (a) positioning a first layer of packaging foil over the top surface of the battery cell, (b) positioning a second layer of packaging foil over the bottom surface of the battery cell, and (c) heat sealing the first layer of packaging foil to the top surface of the battery cell, heat sealing the second layer of packaging foil to the bottom surface of the battery cell, and heat sealing the first layer of packaging foil to the second layer of packaging foil about the periphery of the battery cell.

The examiner appears to be rejecting the Applicant's claimed invention based on the contention that Xing et al. discloses that the foil layer is heat sealed to the battery. The examiner states that the foil "when heated, may bond onto itself or onto the metallic layer such that a hermetic seal is formed around cell 32 (COL 4, lines 35-40)." However, this statement and the reference in the specification does not disclose that the foil is actually heat sealed to the battery, as clearly disclosed and claimed in Applicant's claim 1. The cell in the Xing et al. patent is encased in foil and then heat is applied to only the periphery portion of the foil overlaying itself to bond the foil about its periphery, see specification Col. 4, line 54 through Col. 5, line 3. This portion of the Xing et al. patent specifically states that "the polymeric adhesive and sealant layer is the inner layer of the flexible laminate, it contacts itself along the three peripheral edges where the flexible laminate extends beyond cell 32..." (Col 4, lines 54-57) and that "Heat and pressure are applied to the three extending peripheral edges to cause the polymeric adhesive and sealant material to soften and bond itself together to form a generally U-shaped flange 38 about the periphery of cell 32...thus forms a seal about the periphery of the battery.." Applicant respectfully

submits that sealing the peripheral edge is clearly not heat sealing the first layer of packaging foil to the top surface of the battery cell or heat sealing the second layer of packaging foil to the bottom surface of the battery cell as specifically claimed by Applicant.

The examiner has contended that the cited reference does not contain any specific conditional language reciting that the heat is applied "only" to the peripheral edges. Applicant respectfully submits that more importantly the cited reference does not state that heat is applied to any other area besides the peripheral edge, and therefore the position taken by the examiner is not supported by the reference and is simply conjecture on the part of the examiner. Furthermore, the specification does state that the heat is applied "around" the cell, see Col. 4, Lines 34, 39 and along the "periphery" see Col. 4, Lines 56, 61, and 63 and Col. 5, Line 1.

It should be noted that it has been commonly understood that the heat sealing process would destroy a typical battery cell. In Xing et al. the "bag" encapsulates the battery cell by sealing the bag about the periphery of the battery cell. However, careful attention is paid not to heat the active portions of the battery cell, i.e., the bag is not heat sealed to the top and bottom portions of the battery cell as claimed by Applicant. As such, the method and the end product shown in Xing et al. are different from the method and end product made according to Applicant's method. The examiner is respectfully reminded that the method described in Xing et al. was specifically identified and described by Applicant in its BACKGROUND OF THE INVENTION and therein distinguished from this method, see Applicant's specification page 2, lines 7-22. It was in view of this type of prior art sealing process that the Applicant devised its improved method and product.

The just described argument applies equally to claims 7 and 13 as they also include the general limitation that the foils are heat sealed directly to the battery itself rather than around the battery to form a bag.

With regard to claims 6, 12 and 16, it is well settled that the obviousness of an invention cannot be established by combining the teaching of the prior art absent some teaching, suggestion or incentive supporting the combination, see *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *Ashland Oil, inc. v. Delta Resins and Refractories, Inc.*, 776 F.2d 281, 227 USPQ 657 (Fed. Cir. 1985); *ACSHospital Systems, Inc. v. Montefiore Hospital*, 732 F.2d 1572, 221 USPQ 929 (Fed. Cir. 1984); *Pentec, Inc. v Graphic Controls Corp.*, 776 F.2d 309, 227 USPQ 766 (Fed.Cir. 1985). Moreover, the mere fact that the prior art could be modified in the manner suggested by the examiner does not make such a modification obvious unless the prior art fairly suggests the desirability of the modification, see *In re Gordon*, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Here, the references do not suggest any motivation for, or the desirability of, Applicant's unique method of producing a packaging directly upon a battery cell. As such, it is improper to utilize these references to establish obviousness.

It is acknowledged that the tendency to resort to "hindsight" based upon applicant's disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art. MPEP 2142. This is "especially important in the case of less technologically complex inventions, where the very ease with which the invention can be understood may prompt one 'to fall victim to the insidious effect of a hindsight syndrome

wherein that which only the inventor taught is used against its teacher." *In re Dembiczak*, 175 F.3d994, 50 USPQ2d 1614, 1617 (Fed. Cit 1999) citing *WL. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983). With this in mind, a hindsight-based obviousness analysis must be supported by evidence which is "clear and particular". *In re Denbjcza/c*. It is insufficient to simply offer a broad range of sources or to make conclusory statements, as "[broad conclusory statements regarding the teaching of multiple references, standing along, are not 'evidence'". *Id.*

Applicant respectfully submits that the examiner has claimed the present invention to be obvious utilizing hindsight, speculation and conclusory statements which are not, in fact, supported by the cited references, to come up with a combination that would either destroy the clear intention of the reference or modify such in a manner that goes against the clear teachings of the reference. Applicant respectfully submits that the examiner's contention that heat is applied to the battery cell or that the reference does not recite that heat is applied "only" to the periphery is just such a conclusory statement which is unsupported by the reference. Furthermore, it is submitted that it is only through such hindsight that the Applicant's invention can be gleamed from the cited references. Applicant respectfully contends that the invention is not obvious, but instead is novel and therefore worthy of patent protection.

Applicant hereby submits that as this method is different and as it produces different structures. As such, Applicant's method and products produced thereby are neither anticipated nor made obvious by this reference and therefore should be allowed.

The requisite fee due upon filing of this brief is attached.  
Any additional fee is to be charged to Baker Donelson Bearman  
Caldwell & Berkowitz, PC, Deposit Account No. 11-0553.

Respectfully submitted,



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Docket No.: 2170239-000034

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I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to:  
Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on December 13, 2004.



Signature



## APPENDIX A

### APPLICANT'S CLAIMS

1. A method of sealing a battery cell having a top surface, a bottom surface and peripheral edges, the method comprising the steps of:

(a) positioning a first layers of packaging foil over the top surface of the battery cell;

(b) positioning a second layer of packaging foil over the bottom surface of the battery cell; and

(c) heat sealing the first layer of packaging foil to the top surface of the battery cell, heat sealing the second layer of packaging foil to the bottom surface of the battery cell, and heat sealing the first layer of packaging foil to the second layer of packaging foil about the periphery of the battery cell.

2. The method of claim 1 wherein said first layer and said second layer of packaging foil are multi-layered laminates which includes at least one metallic layer and at least one polymer layer.

3. The method of claim 1 wherein step (c) the heat sealing is conducted in part by two oppositely disposed pressure applying means between which the top layer, battery cell and bottom layer are passed.

4. The method of claim 1 wherein step (c) the first layer is sealed to a majority of the top surface of the battery cell.

5. The method of claim 4 wherein step (c) the second layer is sealed to a majority of the bottom surface of the battery cell.

6. The product formed by the method of claim 1.

7. A method of sealing a battery cell having a top surface, a bottom surface and peripheral edges, the method comprising the steps of:

- (a) providing a first layer of packaging foil;
- (b) providing a second layer of packaging foil;
- (c) positioning a battery cell between the first and second layers of packaging foil;
- (d) heating the first and second layer of packaging foil; and
- (e) pressing the first layer against the top surface of the battery cell and pressing the second layer against the bottom surface of the battery cell,

whereby the heating and pressing of the first and second layers against the battery cell causes the first and second layers to be sealed to the battery cell.

8. The method of claim 7 wherein said first layer and said second layer of packaging foil are multi-layered laminates which includes at least one metallic layer and at least one polymer layer.

9. The method of claim 7 wherein step (e) the pressing of the packaging foils against the battery cell is conducted by two oppositely disposed pressure applying means between which the top layer, battery cell and bottom layer are passed.

10. The method of claim 7 wherein step (e) the first layer is sealed to a majority of the top surface of the battery cell.

11. The method of claim 10 wherein step (c) the second layer is sealed to a majority of the bottom surface of the battery cell.

12. The product formed by the method of claim 7.

13. A method of sealing a battery cell having an exterior top surface, an exterior bottom surface and exterior peripheral edges, the method comprising the steps of:

- (a) providing two sheets of overlaying packaging foils;
- (b) positioning a battery cell between the two sheets of packaging foil;
- (c) heat sealing the packaging foil to the exterior surface of the battery cell.

14. The method of claim 13 wherein the packaging foil is comprised of multi-layered laminates which includes at least one metallic layer and at least one polymer layer.

15. The method of claim 14 wherein step (c) the packaging foil is sealed to a majority of the exterior surface of the battery cell.

16. The product formed by the method of claim 13.